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Cost Savings in New Generation Jails: The Direct Supervision Approach

By W. Raymond Nelson

With many American communities facing the financial burden of jail construction, a new inmate-management concept offers a timely possibility of reducing costs. Many local governments are now considering "new generation" jails with an innovative management method known as direct supervision. This *Construction Bulletin* presents evidence suggesting how this new approach may save construction dollars and reduce operating costs.

Background

Local governments have earmarked approximately $3 billion for jail facilities currently being designed or under construction.[1] Further increases in the local jail population are estimated at 21,000 each year—the equivalent of a new 400-bed jail every week.[2]

Agencies concerned about the rising cost of jail construction are considering an approach termed "new generation" because it departs from conventional concepts in both facility design

From the Director

The dilemma of too many serious crimes with injured victims and not enough space to incarcerate convicted criminals is a major domestic policy issue. Convicted violent and repeat serious offenders have contributed to swelling prison and jail populations which outstrip capacity in many jurisdictions.

The gravity of the problem is recognized by officials throughout the criminal justice system. In fact, when the National Institute of Justice asked criminal justice officials to name the most serious problem facing the system, police, courts, and corrections officials reached a virtually unanimous consensus: prison and jail crowding is the number one concern.

Attorney General Edwin Meese III has spoken out repeatedly on the dimensions of the crisis and the need to help State and local jurisdictions find less costly ways to increase corrections capacity so convicted serious criminals are prevented from preying on people, communities, and our economy.

Responding to the need, the National Institute of Justice established the *Construction Information Exchange* to help State and local officials make informed decisions on building or expanding facilities.

The *Construction Bulletin* is one of a series designed to share information on innovative approaches to building and financing corrections construction.

As jail populations increase each year, so does the expense of constructing and maintaining new jails to contain that growth. As a result, local governments are turning to new alternatives in jail design and management that offer opportunities for cost savings.

This *Bulletin* suggests how an innovative inmate management method known as "direct supervision," paired with "new generation" jail design, reduces construction and operating costs, and improves staff morale and working conditions. The results of these new design and management practices are reduced inmate violence and destructive behavior, eliminating the need for costly security fixtures and furnishings.

In addition to these *Bulletins*, the National Institute of Justice has also published a *National Directory of Corrections Construction*, based on the results of a national survey, which provides a wealth of information on construction methods and costs for jails and prisons built since 1978.

The National Institute also maintains, at our National Criminal Justice Reference Service, a computerized data base on corrections construction. Through this *Construction Information Exchange*, those planning to build or expand facilities are put in touch with officials in other jurisdictions who have successfully used more efficient building techniques.

James K. Stewart
Director
National Institute of Justice

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and inmate management. The new approach offers opportunities for cost savings, as management is less reliant upon expensive construction, high security hardware, and advanced technology.

Inmate-management options

Most local jails do not use direct-supervision management. For several decades, the trend in jail management and architecture has been to reduce contact between staff and inmates as much as possible. Architectural barriers isolate inmates by dividing the institution into distinct staff and prisoner areas.

The design of a jail and its operating policies reflect each other. As shown in Figures A-C, there is a different architectural response for each management option. In this way, the "new generation" jail represents a style of design intended to facilitate direct contact between officers and inmates.

Most American jails fall into one of three architectural and inmate-management categories: (a) "intermittent surveillance," (b) "remote surveillance," or (c) "direct supervision." The most common architectural designs and management categories are "intermittent surveillance" and "remote surveillance."[3]

Intermittent surveillance

Like a hospital, jails of linear design and intermittent surveillance management have rows of cells along surveillance corridors. As shown in Figure A, the staff is unable to observe all inmate housing areas from one location and has to patrol inmates' living areas to provide intermittent surveillance. Not surprisingly, most prisoner behavior problems occur during the intervals between the intermittent patrols.

Remote surveillance

Jails using pod-type design and remote surveillance management have divided the inmate living areas into pods or modules. As shown in Figure B, approximately 50 cells are clustered around dayrooms that are under continual observation by staff in a central control room. The pod is frequently divided into three or four units. Since cell doors are electronically controlled from the officer's control room and communication with inmates is by intercom, officers do not have direct contact with inmates.

The main reason most new jails are designed in this fashion is to enhance inmate surveillance in comparison with traditional linear designs. However, these jails limit staff contact with inmates by isolating the officer in a secure control station.

In anticipation of destructive behavior, both "intermittent surveillance" and "remote surveillance" include high security fixtures, furnishings, and finishes. Despite these costly items, however, vandalism and graffiti are still prevalent in many of these jail environments.

Direct supervision

Jails with "direct supervision" stand in sharp contrast. As shown in Figure C, a direct supervision jail differs from the conventional approach because the officer is stationed *inside* the housing unit. This concept encourages direct interaction between staff and inmates to prevent negative inmate behavior, and it groups inmates into living units of approximately 50 cells that can be efficiently managed by one officer. Rather than separating staff from inmates by security barriers, as is usual, the new approach places officers in direct contact with prisoners at all times. The new concept combines principles of human behavior and

Figure A

Intermittent surveillance

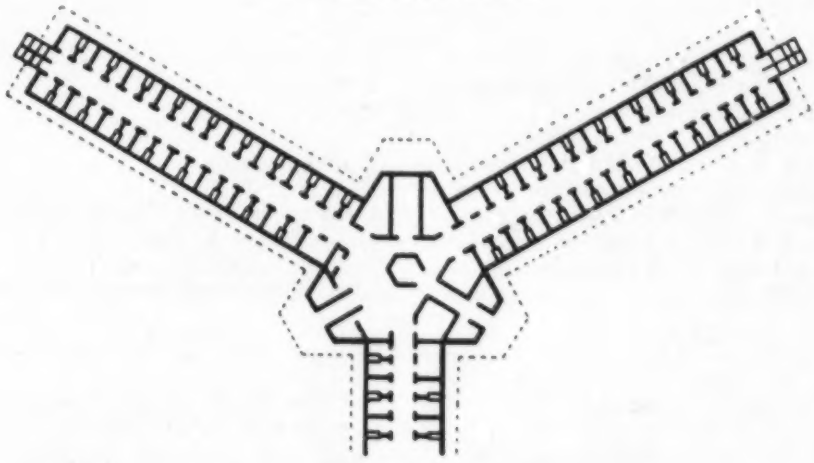
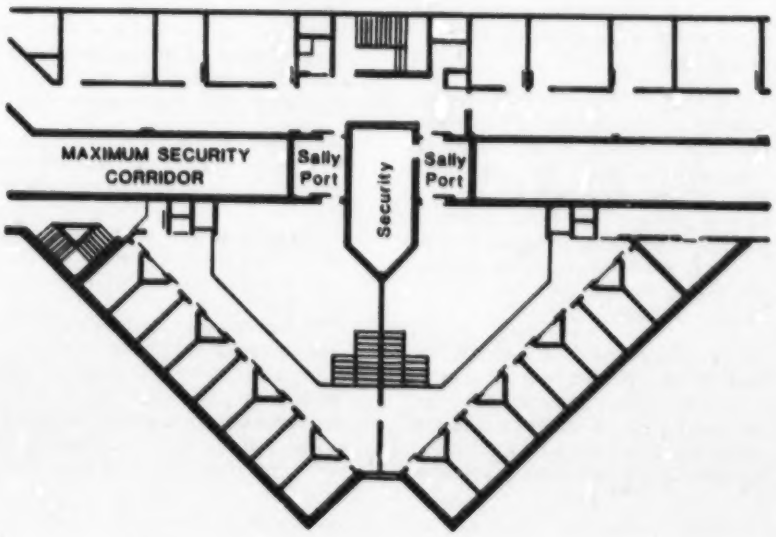


Figure B

Remote surveillance



facility design to create detention environments that facilitate the officer's effectiveness.

While some aspects of the two pod designs are similar (cells clustered around a dayroom, for example) the differences are dramatic. The furnishings, fixtures, and finishes found in the direct-supervision housing pod are usually of normal, commercial grade. Staff assigned to the units work among inmates 24 hours a day. Approximately a dozen detention facilities in the United States currently use this form of inmate management, and as many as a hundred more are under design or construction.

To many people, direct supervision appears to fly in the face of conventional wisdom. They believe that lessons learned in operating traditional linear jails do not provide much support for this new concept. "What can be gained," they ask, "by exposing officers to continuous contact with prisoners and equipping the facilities with furnishings and fixtures that are not designed to resist abusive behavior?"

However, managers of direct-supervision jails respond that officers are placed in inmate housing units precisely in order to increase staff and inmate safety, and that it is unnecessary and perhaps counterproductive to pay a high price for secure, vandal-proof fixtures, furnishings, and finishes when officers are in a position to supervise inmate behavior continuously.

This response does not win many immediate converts. More and more jail managers, however, *are* convinced after seeing the direct-supervision concept in action. Although direct supervision inmate management concepts and principles will prove workable in almost any detention environment, they can be implemented more feasibly in a facility specifically designed for this purpose.

Following formal recognition by the National Institute of Corrections (NIC) in 1983, direct supervision has been endorsed by the American Jail Association, the Committee on Architecture for Justice of the American Institute of Architects, and the American Correctional Association. It has also been incorporated into the Standards for Adult Correctional Institutions and Standards for Adult Local Detention Facilities of the Commission on Accreditation for Corrections. With such support, it may be considered by many to be state of the art for inmate management and housing unit design.

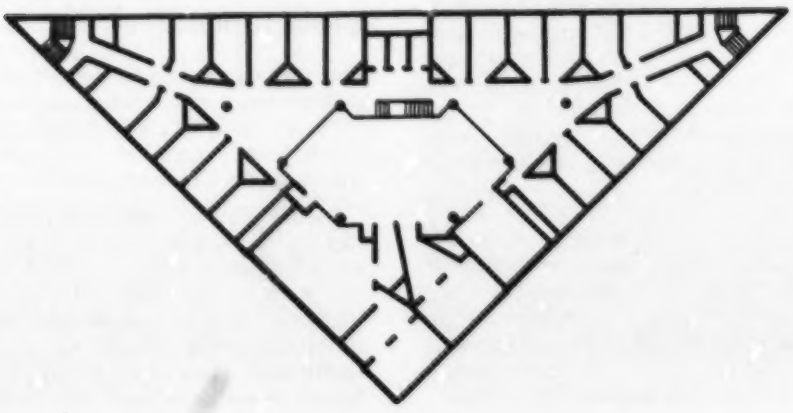
To identify potential cost savings of "new generation" jails, NIJ sent a questionnaire to 12 local jurisdictions. Survey questions concerned operating and capital costs of each facility and requested specific data to substantiate respondents' observations.

Nine of the institutions surveyed were operating direct-supervision facilities and three were under construction. Of the nine jurisdictions currently operating direct-supervision institutions, four were designed for that purpose, three were originally designed for remote surveillance and then converted to direct supervision, and two were designed to accommodate either direct supervision or remote surveillance. At the time of the survey, the nine operating facilities had been practicing direct supervision from 1 month to 5 years.

The small number of institutions in the sample and the wide variations in operating conditions made accurate comparisons very difficult. Despite these obstacles to developing an objective cost evaluation, the questionnaire yielded many similar, if not identical, responses that may prove useful to decisionmakers exploring cost-effective alternatives to traditional jail management and design.

Figure C

Direct supervision



Personnel issues

Personnel costs represent the greatest cost for local jails; managing personnel their most critical concern. Operating costs comprise approximately 90 percent of a jail's lifecycle costs, and personnel expenditures account for approximately 70 percent of a jail's annual operating cost.[4] In a 1982 survey of 2,500 local jails, the National Sheriffs' Association discovered that personnel was the number one management concern.[5] When cost savings are being considered, therefore, potential impact on personnel operations must receive the highest priority.

Effective management

Administrators of the nine operating facilities agreed unanimously that direct-supervision inmate management is an effective technique for managing their institutions. However, several pointed out that increased management attention and staff training were required.

One administrator stated that it takes a great deal of management time to encourage teamwork and to remove the feeling of isolation that staff may have when assigned alone to a housing unit. Another manager reported that direct supervision contributed to the effectiveness of his management by reducing conflicts between staff and inmates and by allowing for closer inmate supervision. One went so far as to say, "It is the most positive trend in jail administration that I have encountered in my professional career."

Improved staff morale

While all respondents operating direct supervision jails reported that staff morale was improved, few were able

to quantify this observation in terms of cost savings. When the respondents were asked to substantiate their claims that direct supervision had a positive impact on staff morale, they cited the following:

- Improvement in staff attitudes.
- Decrease in staff tension.
- Reduced use of sick leave.
- Improved treatment of inmates by staff.
- Decreased number of staff-inmate conflicts.
- Improved institutional cleanliness and orderliness.
- Reduction in employee misconduct and confrontations with management.

When compared to the conventional approach, direct supervision jails assign an officer much greater responsibility for inmate behavior. Rather than remain inside a locked work station, an officer actively supervises all inmates in the housing unit, rather than merely observing them. This assertion of authority has prompted many officers to note that the new approach takes control away from the inmates and places the officer in charge of activity in the housing unit.

Reduced sick leave

Sick leave is an indicator that offers quantifiable measurement. All but one of the responding direct supervision jail administrators indicated that use of sick leave had declined since the introduction of direct supervision. The only exception was a jurisdiction (Pima County) in which staff were obliged to work regularly scheduled overtime for 18 months with only one day off per week.

A study of the Manhattan House of Detention conducted by the National Institute of Corrections in 1985 revealed that sick leave usage for calendar 1984 was significantly less than the average for the city's other four houses of detention.[6] This difference amounted to an annual cost avoidance of 1,810 staff-days, equal to eight full-time positions, or approximately $250,000 in overtime expenditures if overtime were used to fill the vacancies.

Is it fair to conclude that the reduced sick-leave usage is entirely attributable to direct-supervision management techniques? There is no method for absolutely determining why these staff members did not use as much sick leave as staff in traditional detention environments. Nevertheless, improved working conditions and job enrichment are characteristic of "new generation jails," strongly implying that they may result in lower sick-leave usage.

Improved working conditions

As the work force continues to diminish, as is predicted for the remainder of this century, the importance of improved working conditions for staff will increase.[7]

The growing demand by the private sector for trainable employees indicates that jails will face increasing personnel problems before the end of the 20th century. A jail that can offer safe, clean, and orderly working conditions, as well as opportunities for fulfillment and career advancement, will be in a good position to compete for qualified employees.

Staffing level

Perhaps the most important question is, do "new generation" jails require more staff than other jails, or can this approach result in staff savings? The answer of course varies to the degree that jail staffing patterns vary. The direct-supervision facility currently under construction in Dade County, for example, will house 1,000 inmates. It will require approximately half the staff needed to operate the County's older linear jail, which houses approximately 1,300 inmates.[8]

On the other hand, several facilities surveyed have relatively high staffing ratios, where there are fewer than 48 cells in a housing unit.

Housing unit staffing is the best area in which to identify the staffing benefits of direct supervision. A wide variety of settings over the past decade have consistently demonstrated that one officer can effectively supervise approximately 50 inmates, and several institutions have assigned more than 50 inmates to a housing unit with satisfactory results.

Texas is an example of a State where specific staffing ratios are contained in jail standards, requiring one housing area officer for every 48 inmates. In other jurisdictions, higher ratios are acceptable. Readers will have to determine if housing area staffing ratios of 1 officer to 48 or 64 inmates are suitable for the circumstances in their jurisdictions.

Managers of direct supervision jails often cite staff efficiency as an example of improvements over traditional designs. Since traditional jails separate staff from inmates, officers are virtually unable to supervise behavior. Addition of more staff positions has little positive impact since officers are simply *observing* inmate behavior.

For example, jails with management problems or crowding may elect to add more staff. All too often, however, this action fails to improve conditions. This cycle causes more and more staff to be added to traditional jails.

In contrast, the direct supervision jail may operate effectively under a variety of adverse conditions with a fixed number of personnel. The efficiency of fewer staff is possible because personnel are in constant contact with the inmate population, thereby allowing staff to *control* the situation at all times.

Safe working environment

Personal safety is an important determinant of the quality of a work environment. All "new generation" jails reported fewer incidents of violence. Pennsylvania's Bucks County, for example, reported that fights have dropped by at least 50 percent; the use of disciplinary segregation has diminished by 30 percent. New Jersey's Middlesex County reported that in its 18 months of operation with direct supervision, it has had no incidents of inmate-officer or inmate-inmate violence. Colorado's Larimar County reported, "Much less violence; we are in charge for a change!"

Construction costs

Several factors suggest that direct-supervision inmate management contributes to reduced construction costs. All the "new generation" jail administrators reported construction savings:

Commercial-grade *plumbing fixtures* can replace vandal-proof stainless steel fixtures in general population living areas. The degree of cost savings here obviously depends on the differences in the costs of fixtures and installation. The average cost of major brands of stainless steel combination

toilet fixtures is approximately $600 per unit.[9] In contrast, a porcelain watercloset and lavatory, comparable to those used in Federal Prison System facilities, list at approximately $350.[10] When installation and accessory costs are considered, the difference is approximately $200 per cell.

Although some believe that the increased durability of steel fixtures will offset the extra cost, "new generation" jails have not reported a significant problem with breakage. Moreover, the cost difference would pay for many replacements.

Another new concept is elimination of lavatory and toilets in every cell. Cells with access to centralized plumbing areas might be considered for some inmate housing units. In a recent analysis of this option, it was determined that "dry" cells cost approximately $5,000 less per cell than "wet" cells.[11] For this reason, some counties are now reviewing this option as a cost-saving measure.

- *Lighting fixtures* in the general population living areas need not be vandal proof. A good quality commercial fixture designed for frequent use is sufficient. A security surface-mounted fluorescent fixture costs approximately $435 installed, compared with $120 for a commercial grade surface-mounted fluorescent fixture installed.[12]

- The cost of secure *control stations* on each living unit can be eliminated. When concrete, glazing, electronics and equipment are included, the cost of a control station may be $50,000 or higher for each housing unit, depending on the extent of the electronics.[13]

- The cost of *walls and glazing* to divide 48-cell living units into smaller 12- or 16-cell subunits, as is the custom in "remote surveillance" detention facilities, can be eliminated. Security glazing is very costly, and as much as $25,000 to $50,000 may be spent on each housing unit.

- *Furniture* for use by inmates in general population living areas can be of normal commercial quality rather than the more expensive vandal-proof line. For example, a four-person stainless steel table with attached seating costs $975 installed, compared to $320 for a comparable commercial pedestal table with four chairs.[14]

- *Cell doors, frames, and hardware* in the general population living areas can be commercial or institutional types rather than heavy steel doors and sliding gates. Hollow core metal doors of the type used in schools and hospitals are proving to be very effective in direct supervision jails.

The differences in cost are significant. An electronically-controlled maximum security door with frame costs approximately $2,300 installed, while a hollow metal door and frame costs approximately $300.[15]

Cost avoidance is another important consideration. If exterior walls are reinforced with concrete and steel, it may not be necessary to duplicate this expense for interior walls. Facilities now being built with direct supervision management have utilized hollow block for interior partitions, and rely upon exterior walls for the essential security "envelope."

Table A shows cost savings that may be realized for each 48-inmate housing unit. By selecting less costly materials and hardware, officials planning direct-supervision jails may save up to $203,580 per housing unit when compared to the traditional approach.

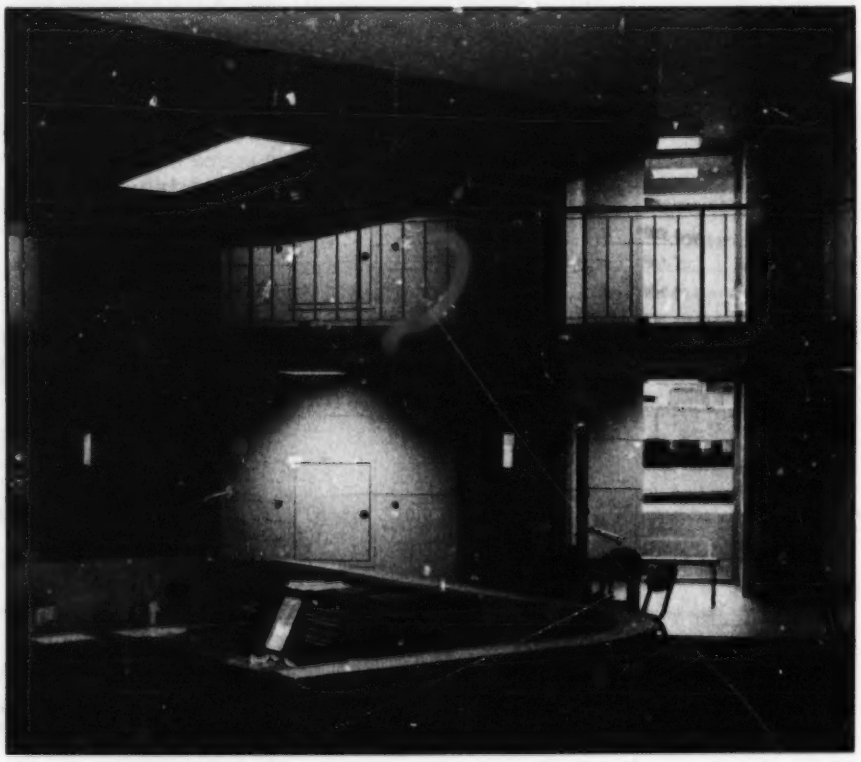
This is not to say that all direct supervision jails are less expensive to build than the conventional detention facilities being built today. Variations in cost among "new generation" jails may result from unique differences in basic architectural characteristics of each of these jails.

The Manhattan House of Detention, for example, was constructed within the shell of an old facility and incorporated all options for operating the facility as either podular-remote surveillance or direct-supervision. The Multnomah County Detention Center was built within a highrise multipurpose criminal justice center. The relatively high cost of these facilities is attributable to special circumstances governing their design.

Maintenance issues

Reduced maintenance costs were consistently reported by the respondents as benefits of the direct-supervision approach.

Experience with direct supervision establishes that there may be substantially less vandalism in general population living areas, and perhaps certain interior areas could be built to school



Housing module in the Multnomah County Detention Center, Portland, Oregon.

or hospital standards. Although the Chicago Metropolitan Correctional Center's interior cell walls were made of concrete block, 11 years of experience suggests that even gypsum board would have been satisfactory in the general population housing units.

Table A

Potential savings* construction costs (per housing unit)

Item	Amount saved
Plumbing fixtures	$200 × 48 = $ 9,600
Lighting fixtures	$315 × 48 = $ 15,120
Control stations	$50,000 × 1 = $ 50,000
Walls/glazing	$25,000 × 1 = $ 25,000
Tables	$655 × 12 = $ 7,860
Cell doors, frames, electronic controls	$2,000 × 48 = $ 96,000
	$203,580

*All costs factored for typical housing unit of 48 inmates.

Building maintenance

Building maintenance is an important area in which respondents reported lower costs. Respondents indicated that there were fewer broken windows and lights and fewer fires, and that plumbing repairs and painting were needed less often. The Contra Costa County Detention Center administrator reported that the county's old facility needed to be painted each year, while the new facility is being painted for the first time since it was built 5 years ago.

The Manhattan House of Detention, New York City's only direct-supervision facility, has surprised local officials with an unprecedented absence of graffiti.

All respondents reported that they have had less graffiti, and several said they have encountered virtually no graffiti at all. Two respondents pointed out that while they saw much less graffiti on the living unit, they found just as much in the court holding tank, which is designed and supervised in the traditional manner.

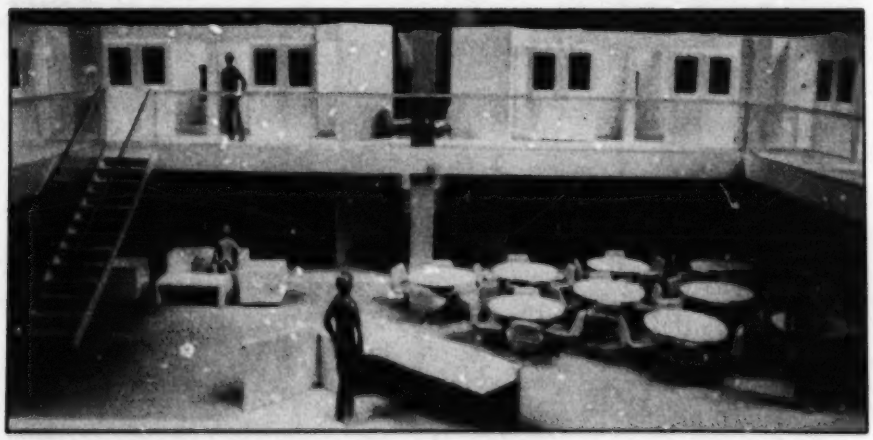
Behavioral inconsistencies displayed by inmates exposed to two different kinds of management and design practices within the same institution are convincing evidence of the strong influence that a jail environment can have on inmate behavior.

Supplies and equipment

Officials also reported less frequent damage to supplies and equipment. The responses uniformly indicated less need for repair and replacement of clothing, television sets, mattresses, and linen. Inmate vandalism rarely occurs in direct-supervision facilities.

Although few facilities have kept records, the Pima County Detention Center provided some cost comparisons that graphically illustrate this point. In the old Pima County Detention Center inmates ruined 150 mattresses each year. Every week approximately two television sets had to be repaired and 15 to 25 sets of inmate clothing were lost. During the first 2 years that Pima County has occupied its new detention center, it lost no mattresses, repaired only 2 television sets, and lost only about 15 sets of inmate clothing.

Several respondents reported an increased use of cleaning supplies in their new facilities, indicating, again, a sense of pride in maintaining them.



Model of direct supervision housing unit where officers are in constant contact with inmates, Santa Clara County, California.

Summary

Specific staffing cost savings derived from direct supervision will depend, of course, on local circumstances. When considering this alternative, officials may also review indirect benefits such as reduced sick leave and increased staff safety. Reduced maintenance costs and less expensive construction components have been consistently reported and documented.

Not only can significant cost benefits be derived from the direct-supervision approach, but such vital objectives as reduced violence and improved working conditions will also be realized. As Naisbitt and Aburdene observed in their book, *Reinventing the Corporation*, "We are living in one of those rare times in history when the two crucial elements for social change are present—new values and economic necessity." Jurisdictions interested in reducing capital, operating, and human costs may find the direct-supervision concept worth further exploration.

For further information...

The National Institute of Corrections (NIC) provides training and technical assistance relating to topics in this *Construction Bulletin*.

The National Institute of Corrections is a national center of assistance to the field of corrections. The goal of the agency is to aid in the development of a more effective,

humane, constitutional, safe, and just correctional system.

The NIC Jails Division's targeted technical assistance program, "Planning of New Institutions" (PONI), is in its ninth year. Through this well-received program, the Institute has provided assistance to more than 250 local jurisdictions in the planning, design, construction, and transition to new jail facilities.

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The Institute operates a national Information Center in Boulder, Colorado. Services are available to the field free of charge.

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Notes

1. Based on a projection of data provided by a survey of 30 States conducted as of December 31, 1985, by Kimme Planning and Architecture under a grant from the National Institute of Corrections.

2. Bureau of Justice Statistics, *1983 Jail Census* (Washington, D.C.: Bureau of Justice Statistics), 1984.

3. Stephen H. Gettinger. "New Generation Jails: An Innovative Approach to an Age-Old Problem" (Washington, D.C.: National Institute of Corrections), 1984.

4. Dale Sechrest. *Correctional Facility Design and Construction Management* (Washington, D.C.: National Institute of Justice), 1985, pp. 96–99.

5. National Sheriffs' Association, *The State of Our Nation's Jails* (Washington, D.C.: National Sheriffs' Association), 1982.

6. Herbert R. Sigurdson, *The Manhattan House of Detention: A Study of Podular Direct Supervision* (Boulder, Colorado: National Institute of Corrections), June 1985.

7. In their recent book, *Re-inventing the Corporation,* futurists John Naisbitt and Patricia Aburdene contend that, "By 1987, there will be a negative net gain in the labor force: More people will be leaving than will be entering."

8. Harper & Buzinec Architects/ Engineers, Inc., *Comparative Analysis of Design Schemes, Dade County Stockade Expansion* (Coral Gables, Florida), 1983.

9. Cost analysis prepared by the construction management firm of CRSS Constructors, November 1985.

10. List price quoted by American Standard for stock items AS–2529.014 watercloset and AS–0356.015 lavatory, March 1986.

11. Cost analysis conducted by Kimme Planning and Architecture, November 1985. It should be noted that the cost reduction includes redesign of all size and dayroom layout as well.

12. *Building Construction Cost Data 1985, 43rd Annual Edition* (Kingston, Massachusetts: Robert Snow Means Company, Inc.), 1984.

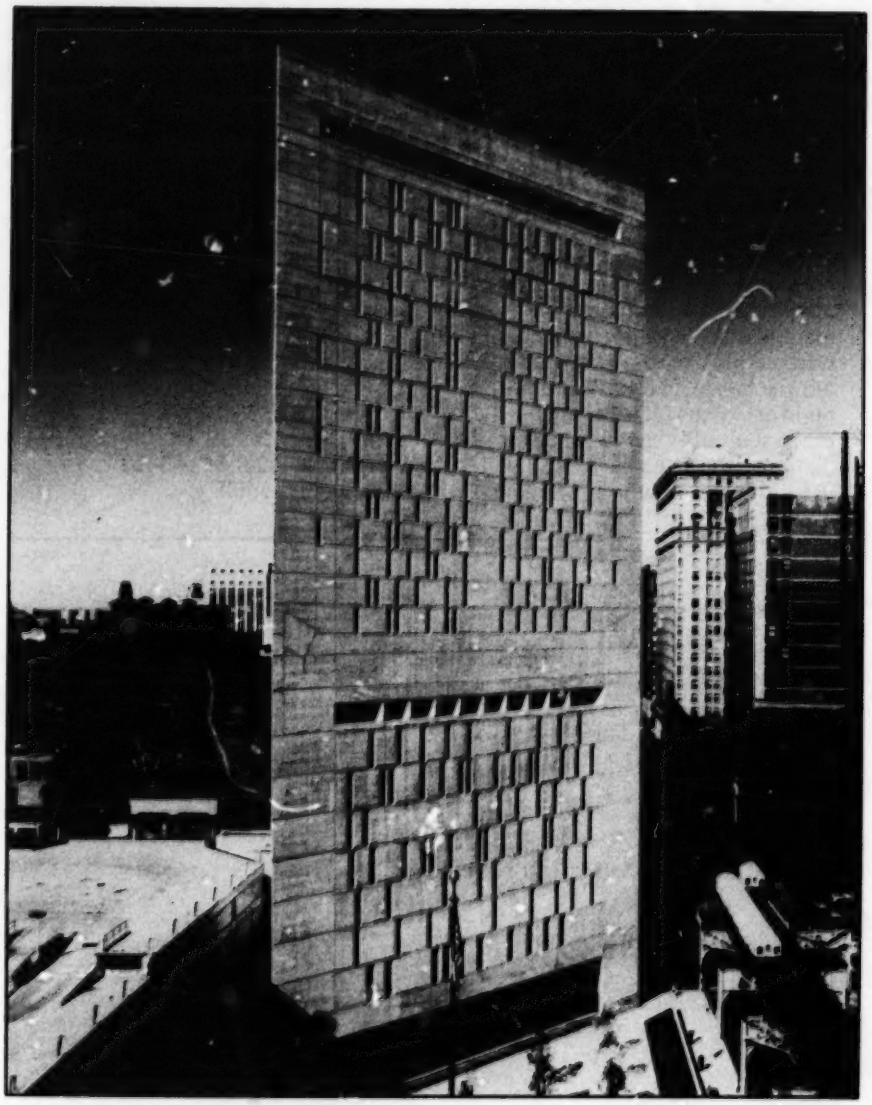
13. Kimme *Planning and Architecture,* estimates for planned facility.

14. Stephens Inc., catalog of institutional supplies, Spring-Summer, 1985.

15. Southern Steel Company, price list for detention and institutional hardware and furnishings, 1985.

About the author

Ray Nelson is a criminal justice consultant with offices in Denver, Colorado. Before retiring from Federal service he served as Chief of the National Institute of Corrections Jails Division in Boulder, Colorado. During the past 30 years he has served in correctional management positions in the Federal Prison System, the City and County of Denver, New York City, and the District of Columbia.



The Chicago Metropolitan Correctional Center, a federal facility, has been operating successfully for more than 10 years and has been a model for several jails.

Where to turn for more help...

The *Construction Information Exchange* has more information on this and other projects. The *Construction Information Exchange* is a Federal initiative that provides information on construction methods and costs for jails and prisons built since 1978. Through the Exchange, those planning to build or expand facilities are put in touch with officials in other jurisdictions who have successfully used efficient building techniques.

Publications include these *Bulletins* and the *National Directory of Corrections Construction*, covering building methods and costs for more than 100 prisons and jails. For more information, or to submit information for inclusion in the Exchange, contact:

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